

# Notice of Allowability

Application No.

09/542,121

Examiner

Manjunath N. Rao, Ph.D.

Applicant(s)

RUCH, FRANK

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication of 11-10-03.
  2. ☒ The allowed claim(s) is/are 1,3-5,8-13 and 25-30.
  3. ☒ The drawings filed on 04 April 2000 are accepted by the Examiner.
  4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) ☐ All b) ☐ Some\* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
    - (a) ☐ The translation of the foreign language provisional application has been received.
  6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |  |   |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other  |

Manjunath N. Rao, Ph.D.  
Primary Examiner  
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**DETAILED ACTION**

**CONTINUED EXAMINATION UNDER 37 CFR 1.114 AFTER APPEAL BUT  
BEFORE A BOARD DECISION**

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 11-10-03 has been entered.

Claims 1, 3-5, 8-13, 25-30 are currently pending and are present for examination.

Applicants' amendments and arguments filed on 11-10-03, have been fully considered and are deemed to be persuasive to overcome the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. Specifically Examiner has withdrawn the previous rejection based on applicant's claim amendments and the showing of unexpected results that a thermophilic enzyme would show up to 50% hydrolysis of lactose at low temperature of 4°C within 2-3 hours. However, Examiner respectfully disagrees with the exhaustive arguments by the applicant that the claims as presented in their previous forms were not obvious. Examiner maintains that the references recited in the previous Office actions rendered the previously presented claims *prima facie* obvious (see previous Office action).

***Drawings***

Drawings submitted in this application are accepted by the Examiner for examination purposes only.

***Priority***

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

***Allowable Subject Matter***

Claims 1, 3-5, 8-13, 25-30 are allowed.

The following is an examiner's statement of reasons for allowance: Following a diligent search it was determined that the prior art neither teaches nor suggests a method for preparing lactase microcarrier for hydrolyzing lactose in a liquid comprising the method as described in claims 1, 3-5, 8-13 and a permeabilized lactic acid bacterial preparation as claimed in claims 25-30. Examiner has withdrawn the previous rejections in view of the applicant's claim amendments and argument that it was surprising and unexpected that the thermophilic  $\beta$ -galactosidase enzyme showed activity at 4 ° C reducing the lactose content by 50% within 2-3 hours. While a perusal of the literature in the art reveals that the above enzyme has been shown to be stable at low temperatures, Examiner was unable to find a teaching that the enzyme was as much active as being capable of reducing the lactose content by 50% within 2-3 hours.

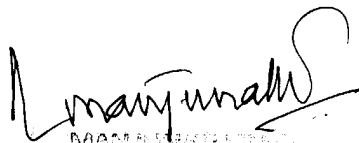
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manjunath N. Rao, Ph.D. whose telephone number is 571-272-0939. The examiner can normally be reached on 6.30 a.m. to 3.00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 571-272-0939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1234.

  
A rectangular stamp with the text "RECEIVED" and "PATENT" is visible below the signature.

Manjunath N. Rao  
January 28, 2004